

REMARKS/ARGUMENTS

Favorable reconsideration and allowance of the present application is respectfully requested. Claims 1-32 are pending in the above application, of which claims 1, 14 and 29 are independent. By the above amendment, claims 29-32 have been added.

The Office Action dated October 27, 2009, has been received and carefully reviewed. In that Office Action, objections were raised in connection with the abstract of the disclosure, the title and the specification. In addition, claims 1-7, 10, 12-17 and 24-26 were rejected under 35 U.S.C. 103(a) as being unpatentable over DE 10260030 (hereinafter, "Demuth") in view of Carpentier, claims 8 and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Demuth in view of Carpentier and further in view of Hayashi, and claims 27 and 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over Demuth in view of Carpentier and further in view of Hirao. It is believed that all claims are allowable over the art of record, and reconsideration and allowance of claims 1-28 and examination and allowance of claims 29-32 are respectfully requested in view of the above amendments and the following remarks.

OBJECTIONS TO THE SPECIFICATION

The Office Action objected to the Abstract of the Disclosure for including the legal term "comprising." The replacement Abstract of the Disclosure submitted herewith has been revised to remove such terminology.

The Office Action objected to the title as being insufficiently descriptive. By the above amendment, the title proposed by the examiner has been adopted.

The Office Action objected to the discussion of the claims in the specification. By

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the above amendment, references to the claims have been removed from the specification.

Wherefore, the withdrawal of the objections to the specification is respectfully requested.

REJECTIONS UNDER 35 U.S.C. 103(a)

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Demuth. Claim 1 recites a heat exchanger that includes a heat exchanger block having pipes for a first medium (and other elements) and a housing casing that surrounds the pipes and has an inlet and an outlet for a second medium. The Office Action acknowledges that Demuth does not include a housing casing as claimed. However, the Office Action indicates that it would have been obvious to add a housing casing, such as the one disclosed in Carpentier, to Demuth's device. Two reasons are provided for modifying Demuth in this manner: 1) to allow for the heat exchange unit to be a self-contained unit and 2) to allow Demuth's device to utilize two fluids (i.e., two liquids).

Regarding the first stated reason for modifying Demuth, it is not clear that either Demuth or Carpentier disclose "self-contained" units. Each unit includes fluid inlets and fluid outlets and these units appear designed to function when fluids enter and exit the devices. If Carpentier is a "self-contained" unit under some definition relied upon by the examiner, Demuth appears to be a self-contained unit as well. At the very least, it cannot be determined how Demuth will become any more "self-contained" if a housing is added to it. The reason for modifying Demuth does not appear to be well founded, and if this reason for modifying Demuth is maintained, it is respectfully requested that

the examiner explain in greater detail how Carpentier is believed to be self-contained and how adding a housing to Demuth will make a non-self-contained device into a self-contained device. It is respectfully submitted that one of ordinary skill in the art would have no reason to make Demuth's unit "self-contained" by adding a housing thereto and that the only reason for adding a housing to Demuth's device appears to come impermissibly from the present disclosure.

The second reason provided for modifying Demuth is to allow the unit to utilize two fluids which may be liquids. However, it is respectfully submitted that Demuth, without modification, is configured to use two fluids, namely a refrigerant and ambient air. No apparent modification is required to allow Demuth to function with liquids, since it appears that a liquid could flow through the fins 7 without any modification to Demuth. It is noted that Carpentier discloses narrow Z-shaped passages (paragraph 0026) for a liquid to flow through, and it seems possible that Carpentier's enclosed system might be needed under such circumstances to encourage liquid to flow through these passages. However, one of ordinary skill in the art would have no reason to add such an enclosure to Demuth which appears to provide adequate room for fluid to flow between the fins 7.

The reasons provided for modifying Demuth appear to be based impermissibly on the present disclosure. No modification to Demuth is needed to allow it to be used with two fluids or liquids, and neither Demuth nor Carpentier appears to be "self-contained" under any reasonable definition of "self-contained." A proper reason for modifying Demuth has not been provided, a prima facie case of obviousness has not been presented in connection with claim 1, and claim 1 is submitted to be allowable over Demuth and Carpentier.

Claims 2-13 and 24-28 depend from claim 1 and are submitted to be allowable for at least the same reasons as claim 1.

Claim 14 was rejected under 35 U.S.C. 103(a) as being unpatentable over Demuth in view of Carpentier. By the above amendment, claim 14 has been rewritten in independent form but the scope of the claim has not changed. Claim 14 recites, in addition to the limitations of claim 1 from which it formerly depended, that corrugated pieces of sheet metal with longitudinal ducts are arranged between the pipes. The Office Action identifies fins 7 as corresponding to the corrugated pieces of metal recited in claim 14, but does not explain how these pieces of metal have longitudinal ducts. Indeed, the fins 7 appear to extend transversely to the longitudinal direction of Demuth's heat exchanger. Carpentier does not address this shortcoming of Demuth. Demuth does not show at least corrugated pieces of sheet metal with longitudinal ducts arranged between the pipes, and claim 14 is submitted to be allowable over Demuth and Carpentier for at least this reason.

Claims 15-17 depend from claim 14 and are submitted to be allowable for at least the same reasons as claim 14. Claim 17 further recites the corrugated pieces of sheet metal are embodied in the form of a parallelogram and leave approximately triangular or trapezoidal inflow and outflow regions between the pipes. The regions in Demuth that the Office Action is calling triangular or trapezoidal inflow and outflow regions between pipes are not identified in the Office Action and do not appear to be present in Demuth. Claim 17 is submitted to further distinguish over Demuth and Carpentier for this reason. If this rejection is maintained, it is respectfully requested that the examiner identify the areas in Demuth that are believed to correspond to the recited triangular or trapezoidal

inflow and outflow regions.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Demuth in view of Carpentier and further in view of Hayashi. Claims 8 and 9 depend from claim 1. Hayashi does not address the shortcomings of Demuth and Carpentier discussed above in connection with claim 1. Claims 8 and 9 are therefore submitted to be allowable for at least the same reasons as claim 1.

Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Demuth in view of Carpentier and further in view of Hirao. Claims 27 and 28 depend from claim 1. Hirao does not address the shortcomings of Demuth and Carpentier discussed above in connection with claim 1. Claims 27 and 28 are therefore submitted to be allowable for at least the same reasons as claim 1.

NEW CLAIMS

New claim 29 is also submitted to be allowable. Claim 29 recites a heat exchanger for a motor vehicle that includes a heat exchanger block and a housing casing. The heat exchanger block includes a plurality of pipes, each of which has a plurality of flow ducts and first and second ends. The flow ducts extend in a longitudinal direction from the first pipe ends to the second pipe ends, and a first end plate is connected to the first pipe ends and a second end plate is connected to the second pipe ends. A first diverter plate is mounted proximate the first end plate and a second diverter plate is mounted proximate the second end plate; a first cover plate covers the first diverter plate and a second cover plate covers the second diverter plate. The heat exchanger block includes at least one inlet chamber and/or outlet chamber connected to

the first or second end plate, and the flow ducts of the plurality of pipes define a primary flow path for a first medium, and spaces between the pipes define a secondary flow path for a second medium. The flow ducts are configured to conduct the first medium from the inlet chamber to the outlet chamber. The housing casing surrounds the pipes and includes a an inlet and an outlet for the second medium, the spaces being configured to conduct the second medium from the housing inlet to the housing outlet without mixing with the first medium. The art of record does not show or suggest a heat exchanger having a heat exchanger block and a housing casing, and one of ordinary skill in the art would have no reason to modify Demuth to provide a housing casing for the reasons provided in connection with claim 1.

Claims 30-32 depend from claim 1 and are submitted to be allowable for at least the same reasons as claim 1. Claim 30 further recites pieces of sheet metal with ducts running in a longitudinal direction. This feature is also not shown or suggested by the art of record which shows, at most, transversely extending ducts. Claim 30 further distinguishes over the art of record for this reason.

CONCLUSION

Each issue raised in the Office Action dated October 27, 2009, has been addressed, and it is believed that claims 1-32 are in condition for allowance. Wherefore, reconsideration and allowance of these claims is earnestly solicited. If the examiner believes that any additional changes would place the application in better condition for allowance, the examiner is invited to contact the undersigned attorney at the telephone number listed below.

Deposit Account Authorization

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 50-3828 and please credit any excess fees to such deposit account.

Respectfully submitted,



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